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An examination of the following university policies to ascertain whether they are barriers to research objectives: Teaching loads, informal student teaching loads (i.e., time devoted to individual students), promotion policy, committee assignments, space requirements, released faculty time for research, research funds, library facilities, departmental responsibilities for research support, and administrative procedures and policies. Presents 16 recommendations.

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REPORT OF STUDY COMMITTEE NO. 3

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BARRIERS TO RESEARCH IN THE UNIVERSITY

"Research" is here construed in the sense adopted in the Report of Study Group No. 3 of the 1954 All-University Faculty Conference, and Study Group No. 1 of this Conference: the term denotes laboratory and field work, theory construction, and scholarly and creative effort in the arts and humanities.

Any discussion of a topic as explosive as "barriers to research" must at the outset give careful attention to the meaning of a "barrier." A university is a complex organization with a number of qualitatively distinct objectives that in the normal course of events tend to be in partial conflict. It would therefore be unwise to define a barrier as any aspect of the University that conflicts in part with the research function.

For discussion it thus seems advisable to define a barrier as a university policy that needlessly hampers the attainment of research objectives or overemphasizes some other objectives. A policy needlessly hampers the attainment of an objective if some other policy would better serve the objective without sacrificing any other values; a policy overemphasizes an objective if it too drastically sacrifices other values.

In this discussion, therefore, the aim is to discover methods of avoiding misconceptions or misdirections of university policy relative to research objectives. In a broad sense, we seek to find ways in which policies can be adopted that will minimize the sacrifice of any of the values of the university.

I

Environment of Research

Any analysis of the real barriers of research should begin with a statement of the ideal environment of research, an ideal that must be realistically modified in the light of other objectives of the university community.

Research requires a certain type of mind, years of proper training, association with able students and qualified colleagues, adequate financial support, facilities, recognition of achievement, and, above all, freedom from outside pressures. A young researcher looking about for the proper place to spend the productive years of his life will not only think in terms of salary and promotion; he will also examine the status of the prospective colleagues and students in his field, the kind of library and facilities available, the calls that the university will impose on his time, and the kind of support that the university will lend in attaining funds and publishing the findings. Especially will he hope to find for uninterrupted reflection and creation a plentiful supply of those golden hours that are the essence of research opportunity.

II

Possible Barriers

The following University policies need examination to ascertain whether they really are barriers to the research objectives just described:

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1. Undergraduate and graduate teaching loads.
2. Informal teaching loads associated with undergraduate reading courses, master's theses or research papers, Ph.D. theses, postdoctoral fellows, student advising, and other types of individual student attention.
3. University promotion policy.
4. Committee assignments.
5. Policies on space requirements.
6. Released time for research.
7. Research funds.
8. Library facilities.
9. Departmental responsibilities for research support.
10. Administrative procedures and policies.

III

Teaching Loads

At present, class teaching loads are widely dispersed within the University. There is an understandable disinclination to state rigid standards applicable to every department of the University. A lack of any generally recognizable criteria for assigning loads, however, has unquestionably resulted in a real barrier to research in certain departments and campuses of the University.

The Handbook for Faculty Members (Revision of September, 1958) contains very little substantive information to guide the department head in establishing a teaching load policy. The text on page 17 suggests that the load is a matter of negotiation between the department member and the chairman ("New appointees should consult their department chairmen regarding the teaching load they will be expected to assume."). The text in the "Note" to "University Regulation No. 7" is even more reluctant to admit any general rationale in the assignment of loads. After recommending that two hours of classroom or laboratory instruction be added to the maximum load, the regulation goes on to point out that this rather precise increment be added to a quantity that cannot be made precise: "... in this emergency it is not the desire either of the Budget Committee or the President to embark upon any discussion of a theoretically proper teaching load."

Thus, although few would condone establishing fixed loads applicable to all full-time teaching faculty, yet the absense of any explicit policy on loads is equally un desirable. Evidence at hand seems to be sufficient to support the following statements:

1. In some departments of the University the teaching loads prevent faculty from devoting sufficient time to their research.
2. The marked difference between the loads of departments is unexplainable by any commonly accepted principle.
3. Where opportunity for individual attention to students is greatest, as on the smaller campuses, teaching loads are often greater than the average, especially because the faculty member must teach outside his chosen field of interest.

It therefore seems highly desirable to initiate a study of teaching load policies in the University—to compare loads, ascertain where loads prevent research activities, and recommend a sounder basis for future policies.

IV

Informal Student Teaching Loads

There can be no doubt that many faculty members devote a disproportionate amount of time to individual students, whereas others prefer to ignore the problem. Yet no recognized policy attempts to spread this work load evenly. A great deal of the individual attention a student requires is in the area of research, and therefore this lack of policy may in a number of instances appear to be a serious barrier to research effort. Some faculty members can't say "no" to a student and some don't want to, but others simply don't care to spend their time in student supervision. How much time one devotes to this important aspect of teaching should be partly up

to the individual, but it is clearly unfair to give him no recognition in terms of a reduction of his other teaching responsibilities if he willingly undertakes to perform these duties. A great university must maintain the age-old tradition of individual attention; those who wish to ignore this aspect of the University's responsibilities ought to be the first to urge a clear policy of recognition of those who do. Informal instruction and individual attention are an especially important aspect of a graduate program, where students are learning to become productive scholars in their own fields. This part of the University's teaching responsibilities can no longer go without recognition.

Specifically, at the recommendation of departments, some formula might be developed that equates individual time to classroom load. The difficulties in arriving at a fair formula are apparent enough, but the inadequacies of an approximate equivalence would be far less than the inadequacies of no recognition at all. In evaluating graduate instruction, greater emphasis should be placed upon the intellectual significance of research done by graduate students under the stimulation and direction of individual faculty members. A high quality of work in graduate papers and theses reflects the scholarly productiveness of a faculty. It should be noted that recognition of individual student attention in promotion deliberation does not solve the problem relative to research, because it does not release time, which is the most valuable resource of the researcher.

V

University Promotion Policy

Research is one of the four areas that promotion committees are asked to examine in their analysis of a candidate. This is as it should be, but it is apparent that the very listing of items to be examined has brought about both confusion and an unfortunate emphasis in the minds of committee members and of the candidates.

In the case of research this confusion has often led to premature or ill-considered publication by younger faculty members, who have been impressed by the necessity to qualify under each of the items. Now no one has claimed that every member of the University faculty must be a universal man, well rounded in teaching ability, research, university service, and professional competence. But the very existence of a fourfold classification of the attributes of a faculty member leads to confusion in planning by the younger faculty member. There is some feeling that the classification ought to be dropped entirely, because it tends to give reviewing committees an excuse to avoid the difficulties of considering each man as an individual case; thus, in examining research contributions, the reviewing committees may pay far too much attention to quantity of publication rather than to the complicated aspects of creativity and a life's research mission. On the other hand, some feel that the present promotion policy is more or less automatic, and that appointment policy is far more critical in the development of a research environment within the University. Both an ill-conceived review policy and a poor appointment policy constitute research barriers, the one because it misdirects the work of some faculty members, the other because it sustains mediocrity.

VI

Committee Assignments

There is no question to be raised here concerning the great value of faculty participation in relevant University policy formation. But it is necessary to question policies on the size and number of committees, as well as the method of selecting members.

First of all, committee work does interfere with research time, not only in terms of the actual hours spent in meetings and preparation of reports and memoranda, but also in terms of the interruption of continuous time devoted to research work. Most research cannot conveniently be turned on or off to meet the requirements of committee-meeting schedules.

The seriousness of the problem can best be illustrated by the experience of many who have been given released time from teaching in order to join a research institute. Quite often, their committee assignments continue or even increase; as a result, a large proportion of the "released time" is lost.

The following questions seem to require more careful examination:

1. Can the size of a number of committees be reduced without undue sacrifice of democratic or representative values? If a committee meets weekly for one and one-half hours, and a member spends an additional hour a week on committee work, then the reduction of a committee by one member is approximately equivalent to the release of one whole week each semester. In our attempts to have all viewpoints represented on a committee, we have at times undoubtedly ignored the costs entailed in such a policy.

2. Are some faculty members undertaking a disproportionately heavy load in committee assignments? Of course, some faculty members have special talents for and inclination toward committee work, and these should be recognized. In general, there seems to be a need for more thorough information about a faculty member before an assignment is made. Possibly this could be the function of the department chairman, who would make use of a central file on committee assignments in advising on the suitability of a faculty member for a specific committee assignment. It does not seem to be a wise policy to stretch a faculty member's good will beyond reasonable bounds.

3. Should released time for a department entail a proportionate release from committee assignments in the department? Theoretically the answer is affirmative, since released time permits the department to appoint a substitute; practically it may be more convenient to be released from all departmental committee work for one semester, and to assume a normal assignment in the second. In any case, departments should take cognizance of released time of their members in making committee assignments.

4. Shouldn't a great deal more attention be paid to staffing committees with assistants who would acquire the necessary information and assist in recording committee deliberations and preparing committee reports? In other words, there seems to be ample evidence that better techniques can be employed for utilizing faculty talent on committees.

VII

Space Requirements

Limitations of space on some campuses have introduced real barriers to research. A faculty member must often prove that space will constitute no problem before he can submit a project for outside support. This means that the individual must find his own space. It would be ridiculous to require those offering courses to find the rooms in which to hold their lectures. The chaos would be intolerable. It is equally inadequate to ask researchers to spend time unearthing new space—though the chaos here is less apparent because the problem is not as acute to the majority.

Greater attention must be given to space requirements for research. On the older campuses, space for research will become a more significant part of total space requirement as graduate instruction and research programs increase in importance. On the newer campuses, adequate space must be planned for future developments in their space requirements for research. In some fields, space is a more serious limitation upon research than special grants or funds for actual research.

Every University department or agency must take account of research in planning space requirements. Such matters cannot be left to negotiation between individual faculty members and the central administration. Providing space for research in a university is as essential to its function as providing space for classrooms.

In more general terms, there is a current need to provide faculty members with individual studies where they can spend un-

interrupted hours for reading, writing, and reflection. Research assistants, too, have as vital a need for adequate space as do teaching assistants.

VIII

Released Time for Research

At present, faculty members may be released from teaching loads by any of the following plans: they can obtain part-time support from institutes or bureaus; they can obtain outside funds from foundations and the like; they can obtain fellowships for independent study either during the year or during the summer months; they can obtain sabbatical leaves.

The smaller campuses in many cases need to have more institute support for their research, either through new institutes or through sharing in already established institutes. In general, there needs to be better communication throughout the University on the aims and resources of existing research centers, bureaus, and institutes. At the same time, it should be made clear to all faculty members that, unless contrary to explicit and rational policy, the released time of a faculty member on campus *A* may be supported by funds of an institute on campus *B*. Also, the state-wide Committee on Educational Policy should undertake to determine where the needs for new institutes exist, and how these needs ought to be satisfied, in addition to screening proposals.

Summer fellowships provide one of the most useful ways of subsidizing research, especially of younger men who need to obtain additional financial income during the summer. Every effort should be made to increase the number of available summer fellowships.

IX

Research Funds

Some areas of research are well supported by outside funds. Others, especially the social sciences and humanities, are seriously limited by inadequate funds for research.

Serious barriers may exist in the communication of information about research opportunities for those most in need of the opportunities. Consideration should be given to the possibility of a state-wide office in the University to make information about special research grants and fellowship opportunities available to the appropriate faculty members on the various campuses. The smaller departments on the newer campuses would especially benefit from this service.

In addition to providing information about opportunities that are already available, the University should use its development program to make known special needs for research that are not being adequately funded from existing sources and should seek to encourage various individuals and agencies interested in supporting new intellectual development to give funds for these purposes. Special gift and developmental funds could serve an important role in opening new opportunities for significant intellectual developments on neglected fronts.

Greater attention should also be paid on all campuses to the allocation of research funds for travel to meetings. Failure to attend national and local meetings because of lack of travel support is often a real barrier to research; the opportunity for communication is lost, and the reputation of the University as a research center is lessened. Under the present policy, funds available for travel to academic meetings are pitifully small, to the extent that many faculty members will not even bother to apply for travel assistance from the research committees.

At the same time, we recognize the advantages that have recently accrued to research in relaxing the need for Regents' approval for projects under $100,000, and look forward to other administrative plans that will reduce "red tape" in this connection.

X

Library Facilities

Libraries are essential for all research effort; and the more excellent the research,

the greater is the requirement for special documents, reports, journals, and books. Many of the smaller campuses lack good library facilities. Faculty members on these campuses report difficulties in borrowing from the larger University libraries. The Report of Study Committee No. 4 of the 1959 Conference proposed some specific and realistic recommendations on this score: giant library pools at Berkeley and Los Angeles, limited libraries at some of the smaller campuses, a University catalogue at each campus, and greater facility in obtaining books and journals. Nevertheless, these recommendations are valid only at best on a short-term basis. It seems unrealistic to fail to plan now for the University library of 1985; perhaps a radically different concept of the library function and operation would emerge as a result, where the awkward use of two giant collections would be unnecessary.

It therefore seems desirable to develop a long-range master plan for library expansion throughout the University. This plan should include a thorough survey of methods of easing shortages during the initial years of expansion: duplication processes, released time for library trips from smaller campuses, and an easing of loan restrictions on the part of the larger libraries. It should also adopt as general a view as possible of the real goals of university libraries, with a view to establishing more effective and economical library systems.

It is also recommended that study already undertaken be brought to conclusion concerning large-scale, low-cost duplication of books, periodicals, and other research documents. We are aware that the cost of reproducing books is currently quite high, and can be used only for scarce and high-cost documents. If the same process can be applied for large-scale use, volume production might substantially reduce this cost. If the cost of reproduction can be reduced to the one- and two-dollar level, it may be possible to develop in a much shorter period an adequate research library on each of the small campuses.

XI

Departmental Responsibilities for Research Support

It should be noted that in many instances departmental administration is far more concerned with teaching budgets and curriculum planning than it is with research activities. Each department should budget its research time and space as well as its teaching loads and classrooms. It might decide, in terms of departmental long-range plans, the approximate full-time equivalents of research activities and the space and equipment needs. Some of its research budget may be met by institutes and bureaus, or by outside support. Where obvious resources do not exist, the departments should feel as responsible for obtaining the support as they do for obtaining teaching slots to meet their curriculum needs.

As a part of these general considerations, departments should be encouraged to add supporting personnel to provide faculty with better secretarial, clerical, and other staff assistance in order to relieve faculty of routine assignments. More stenographic support is required for preparation of manuscripts and research materials. Where departmental libraries serve as essential research tools, special consideration should be given to their requirements.

Institutes and bureaus can perform important functions in drawing upon various specialties in order to organize a concerted attack on some problem requiring skills from various disciplines for its resolution. Once established, institutes or bureaus may be more successful than departments traditionally have been in commanding funds, space, and facilities, even though they may be performing little work of distinctive quality. As a result, the institutes and bureaus should be subject to regular and systematic review in order to determine whether the intellectual quality and significance of their work justify special budgets and administrative arrangements. Greater emphasis upon the re-

search mission in departmental programs could help correct this bias.

XII

Administrative Procedures and Policies

As indicated in the early discussion on space requirements, administrative procedures either place the burden on the individual staff member to secure the necessary space, or to certify that no special space problem exists in order to secure administrative approval for submission of an application for research funds to an outside agency. The very nature of the administrative procedure involved tends to preclude consideration of space requirements for University purposes as a matter of general departmental, campus, or University policy. Use of outside funds to supplement University funds for research is also discouraged by this procedure.

A variety of other administrative procedures and policies have a comparable effect. The use of ratios based on student loads in projecting personnel, building, budget, and other requirements seriously prejudices consideration of the research function as a general University responsibility. Methods of cost allocation in determining overhead charges and operating procedures in various service facilities, including purchasing, transportation, and stenographic pools, may tend to bias decision-making in relation to research. Such biases could be major sources of both poorly conceived policies and misdirected policies pertaining to the research mission of the University.

As a result, a basic analysis of administrative procedures and policies should be undertaken by an appropriate University agency in order to determine the biases and misconceptions that such procedures and policies have upon the research mission of the University in general university operations.

XIII

Conclusion

A report such as this cannot help but leave the impression that research in the University is beset with many barriers that a little more rational consideration could readily remove. The Committee recognizes that many of the problems can be solved only by obtaining more funds and not simply by reallocating present resources. We are a large university with a great research mission, and none of the problems we face is easily solved. But we should keep in mind that the goals of research stretch endlessly into the future, and that one of the chief barriers to future research will be short-sighted planning that attempts to solve current problems at the sacrifice of future growth. We should be planning the University of the next decades and the next century; such a plan may make realistic any proposals that are unrealistic for shorter-range problems.

Our most important question is therefore this: What policies can we adopt in the 1960's that will minimize the research barriers of the following decades? If the faculty of the University of the year 2000 could write the recommendations of this report of 1960, what would it say?

XIV

Recommendations

1. An explicit and rational University-wide policy should be developed that will assist in the determination of teaching loads on campuses and within departments.

2. The teaching load policy should recognize the faculty member's time spent with individual students.

3. The committees concerned with promotion should become more fully aware of the need to recognize the existence or nonexistence of a candidate's research mission, and the competitive need to produce should thereby be diminished.

4. The policy governing the size of committees should be examined relative to the potential lost research time of the members.

5. A persistent effort should be made to diminish inequities in committeee assignments.

6. Committees should be more adequately staffed with technical assistance to permit the time of the faculty members to be spent more profitably.

7. A faculty member doing research on a released time basis should be released from departmental committee loads in proportion to released teaching loads.

8. There should be developed for the University a master plan of library expansion that will also include interim facilitation of the use of existing University library resources. (See also Recommendations 37 and 38 of the 1959 All-University Faculty Conference.)

9. Space requirements for research should be given attention comparable to space requirements for instructional purposes.

10. The University should encourage the expansion of research programs in certain departments and investigate the need for new research institutes and bureaus on the smaller campuses.

11. Information about the resources and aims of existing bureaus, centers, and institutes should be made available to all faculty, and the faculty of the smaller campuses should be encouraged, where appropriate, to apply for support from existing institutes.

12. The University should seek for the smaller campuses endowment funds that will facilitate growth of the research missions of these newer institutions.

13. The number of the summer fellowships should be increased.

14. More funds should be allocated for travel to academic meetings.

15. The state-wide office of the University should provide information about special research funds, grants, and fellowship opportunities.

16. Individual departments, in considering their operational budget, should give consideration to a budget for research personnel, space, and facilities needs.

Summary of Discussion

Recording Secretaries: **E. Russell Hardwick, Robert B. Howsam**

Problems of library facilities and faculty work load were the principal topics of discussion. The discussion of faculty work load moved in directions not anticipated by the Committee's report.

The University of California library faces some especially serious problems arising both from the development of the new campuses and from the general extension of knowledge and proliferation of materials. The expansion of programs on the older campuses has also placed increasing demands upon the larger established libraries, and those facilities are becoming deficient in many areas.

The newer campuses present the most pressing short-range problem. Several proposals were made for duplication facilities, rapid intercampus loan and transportation services, and transmission through closed circuit television. It was suggested, however, that such devices are no permanent substitute for a good library collection located on each campus.

Travel expenses and transportation facilities could permit faculty and students to visit the major libraries in Berkeley and Los Angeles. This arrangement is more expensive than transporting library materials to the user, but may be a necessary arrangement where a wide variety of materials must be utilized.

The long-range solution of the library problem was viewed as requiring technical analysis of new methods for data storage and processing. Some felt that the entire concept of a library as an information transmission center needs to be studied by a research group.

A survey of the work load of faculty members was suggested as a means of correcting distortions in public understanding of the University. Members of the Legislature, the Legislative Analyst, and others had requested work-load data regarding the University faculty.

Any analysis of work load was viewed as posing serious problems in: (*1*) the meas-